AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A system for applying ultrasound energy to the thoracic cavity of an individual to increase blood flow of the individual comprising:

an ultrasound applicator sized to be placed in acoustic contact with a skin region of the individual to transcutaneously apply ultrasound energy to the thoracic cavity, the ultrasound applicator comprising a housing body, a transducer housed within the housing body and including a ~~radiating surface~~ transducer face having a periphery and a gravity plane, a stand-off region spaced outward from and encircling the entire periphery of the transducer face for a set distance below the gravity plane to prevent direct contact between the transducer face and the skin region, a flexible material overlaying the stand-off region defining a bladder chamber between the flexible material and the transducer face, the flexible material defining an acoustic contact area contacting and conforming to the skin region, ~~a~~ an acoustic coupling media liquid confined within the bladder chamber ~~for the transducer~~, and a well region extending outward about the entire periphery of the transducer face between the transducer face and the stand-off ~~surrounding the radiating surface~~ and ~~being located at a higher~~ at a position above the gravity plane ~~than the radiating surface~~ to collect away from the transducer face, and without discharge from the bladder chamber, air bubbles forming in the acoustic coupling media liquid, to minimize localized skin surface heating effects, and

an electrical signal generating machine adapted to be coupled to the ultrasound applicator, the electrical signal generating machine including a controller to generate electrical signals to operate the ultrasound applicator during a treatment session to produce ultrasound energy in pulses at a prescribed pulse repetition frequency (PRF), a prescribed fundamental therapeutic frequency laying within a range of fundamental therapeutic frequencies not exceeding about 500 kHz, and at a duty cycle (DC) of about 50% or less, wherein DC = PD divided by 1/PRF, where PD is the amount of time for one pulse~~;~~

2. (Original) A system according to claim 1 wherein the duty cycle (DC) lays between about 10% to about 25%.

3. (Currently Amended) A system according to claim 1

wherein the transducer face ~~includes an ultrasonic coupling region being~~ is sized to transcutaneously apply ultrasound energy in a diverging beam that substantially covers an entire heart.

4. (Currently Amended) A system according to claim 1

wherein the transducer face ~~includes an ultrasonic coupling region~~ is sized to transcutaneously apply ultrasound energy at the prescribed fundamental therapeutic frequency, the transducer having an effective diameter (D) and an aperture size (AP) not greater than about 5 wavelengths, wherein AP is expressed as AP = D/WL, where WL is the wavelength of the fundamental frequency.

5. (Original) A system according to claim 1

further including an assembly worn on the thorax and adapted to be affixed to the ultrasound applicator, to stabilize placement of the ultrasound applicator on the thorax during transcutaneous application of ultrasound energy.

6. (Original) A system according to claim 1

wherein the range of fundamental therapeutic frequencies is between about 20 kHz and about 100kHz.

7. (Original) A system according to claim 6

wherein the prescribed fundamental therapeutic frequency is about 27 kHz.

8. (Currently Amended) A system according to claim 1

wherein the transducer face is sized to provide an intensity not exceeding 3 watts/cm^2 at a maximum total power output of no greater than 150 watts operating at the prescribed fundamental therapeutic frequency.

9. (Original) A system according to claim 8

wherein the range of fundamental therapeutic frequencies is between about 20 kHz and about 100kHz.

10. (Original) A system according to claim 9

wherein the prescribed fundamental therapeutic frequency is about 27 kHz.

11. (Cancelled)

12. (Currently Amended) A system according to claim 1

wherein the acoustic coupling media liquid comprises water, or ultrasonic gel, or oil, or a polymer, or a combination thereof.

13. (Currently Amended) A system according to claim 12

wherein the housing body accommodates circulation of the acoustic coupling media liquid in the bladder chamber about the ~~ultrasound~~ transducer face.

14 to 17. (Canceled)

18. (Currently Amended) A method for applying ultrasound energy to the thoracic cavity of an individual to increases blood flow of the individual comprising the steps of

placing an ultrasound applicator in acoustic contact with a skin region of the individual to transcutaneously apply ultrasound energy to the thoracic cavity, the ultrasound applicator comprising a housing body, a transducer housed within the housing body and including a ~~radiating surface~~ transducer face having a periphery and a gravity plane, a stand-off region spaced outward from and encircling the entire periphery of the transducer face for a set distance below the gravity plane to prevent direct contact between the transducer face and the skin region, a flexible material overlaying the stand-off region defining a bladder chamber between the flexible material and the transducer face, the flexible material defining an acoustic contact area contacting and conforming to the skin region, ~~a~~ an acoustic coupling media liquid confined within the bladder chamber ~~for the transducer~~, and a well region extending outward about the entire periphery of the transducer face between the transducer face and the stand-off ~~surrounding the radiating surface~~ and ~~being located at a higher~~ at a position above the gravity plane ~~than the radiating surface~~ to collect away from the transducer face, and without discharge from the bladder chamber, air bubbles forming in the acoustic coupling media liquid, to minimize localized skin surface heating effects, and

generating electrical signals to operate the ultrasound applicator during a treatment session to produce ultrasound energy in pulses at a prescribed pulse repetition frequency (PRF), a prescribed fundamental therapeutic frequency laying within a range of fundamental therapeutic frequencies not exceeding about 500 kHz, and at a duty cycle (DC) of about 50% or less, wherein DC = PD divided by 1/PRF, where PD is the amount of time for one pulse.

19. (Original) A method according to claim 18

wherein the duty cycle (DC) lays between about 10% to about 25%.

20. (Original) A method according to claim 18

further including the step of transcutaneously applying the ultrasound energy pulses in a diverging beam that substantially covers an entire heart.

21. (Currently Amended) A method according to claim 18

~~further including the step of applying the ultrasound energy pulses through an ultrasonic coupling region using the transducer,~~ wherein the transducer ~~having~~ face has an effective diameter (D) to transcutaneously apply the ultrasound energy pulses at the prescribed fundamental therapeutic frequency in a diverging beam having an aperture size (AP) not greater than about 5 wavelengths, wherein AP is expressed as AP = D/WL, where WL is the wavelength of the fundamental frequency.

22. (Original) A method according to claim 18

further including the step of stabilizing placement of the ultrasound applicator on the thorax during transcutaneous application of ultrasound energy.

23. (Original) A method according to claim 18

wherein the range of fundamental therapeutic frequencies is between about 20 kHz and about 100kHz.

24. (Original) A method according to claim 23

wherein the prescribed fundamental therapeutic frequency is about 27 kHz.

25. (Original) A method according to claim 18

wherein the ultrasound applicator is operated to provide an intensity not exceeding 3 watts/cm^2 at a maximum total power output of no greater than 150 watts operating at the prescribed fundamental therapeutic frequency.

26. (Original) A method according to claim 25

wherein the range of fundamental therapeutic frequencies is between about 20 kHz and about 100kHz.

27. (Original) A method according to claim 26

wherein the prescribed fundamental therapeutic frequency is about 27 kHz.

28. (Cancelled)